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1 Wavelength routing of 40 Gbit/s packets with 2.5 Gbit/s header erasure/rewriting using all-fibre wavelength converter

Olsson, B.-E.; Ohlen, P.; Rau, L.; Rossi, G.; Jerphagnon, O.; Doshi, R.; Humphries, D.S.; Blumenthal, D.J.; Kaman, V.; Bowers, J.E.

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Valeria Cardellini , Emiliano Casalicchio , Michele Colajanni , Philip S. Yu
ACM Computing Surveys (CSUR) June 2002
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José Brustoloni
Proceedings of the eleventh international conference on World Wide Web May 2002
It is widely recognized that distributed denial-of-service (DDoS) attacks can disrupt electronic commerce and cause large revenue losses. However, effective defenses continue to be mostly unavailable. We describe and evaluate VIPnet, a novel value-added network service for protecting e-commerce and other transaction-based sites from DDoS attacks. In VIPnet, e-merchants pay Internet Service Providers (ISPs) to carry the packets of the e-merchants' best clients (called VIPs) in a privileged class ...
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Supratik Bhattacharyya , Christophe Diot , Jorjeta Jetcheva
Proceedings of the First ACM SIGCOMM Workshop on Internet Measurement Workshop November 2001
In this paper, we study traffic demands in an IP backbone, identify the routes used by these demands, and evaluate traffic granularity levels that are attractive for improving the poor load balancing that our study reveals. The data used in this study was collected at a major POP in a commercial Tier-1 IP backbone. In the first part of this paper we ask two questions. What is the traffic demand

between a pair of POPs in the backbone? How stable is this demand? We develop a methodology that combi ...

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Stan Michael Stricklen , Bob Cummings
Linux Journal April 2000
This article describes the authors' implementation of a demonstration environment for differentiated Internet services (DiffServ) using Linux-based routers.
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Volume 21 Issue 4
- 13** Building a robust software-based router using network 82%
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Tammo Spalink , Scott Karlin , Larry Peterson , Yitzchak Gottlieb
ACM SIGOPS Operating Systems Review , Proceedings of the 18th symposium on Proceedings of the 18th ACM symposium on operating systems principles October 2001

Volume 35 Issue 5


Recent efforts to add new services to the Internet have increased interest in software-based routers that are easy to extend and evolve. This paper describes our experiences using emerging network processors---in particular, the Intel IXP1200---to implement a router. We show it is possible to combine an IXP1200 development board and a PC to build an inexpensive router that forwards minimum-sized packets at a rate of 3.47Mpps. This is nearly an order of magnitude faster than existing pure PC-base ...

14 Papers: YESSIR**80%** Ping Pan , Henning Schulzrinne

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Volume 29 Issue 2

RSVP has been designed to support resource reservation in the Internet. However, it has two major problems: complexity and scalability. The former results in large message processing overhead at end systems and routers, and inefficient firewall processing at the edge of the network. The latter implies that in a backbone environment, the amount of bandwidth consumed by refresh messages and the storage space that is needed to support a large number of flows at a router are too large. We have devel ...

15 Papers: Operational and performance issues of a CBQ router**80%** Fulvio Rizzo , Panos Gevros

ACM SIGCOMM Computer Communication Review October 1999

Volume 29 Issue 5

The use of scheduling mechanisms like Class Based Queueing (CBQ) is expected to play a key role in next generation multiservice IP networks. In this paper we attempt an experimental evaluation of ALTQ/CBQ demonstrating its sensitivity to a wide range of parameters and link layer driver design issues. We pay attention to several CBQ internal parameters that affect performance drastically and particularly to "borrowing", a key feature for flexible and efficient link sharing. We are also investigat ...

16 Traffic characterization: Characteristics of fragmented IP traffic**80%** on internet links

Colleen Shannon , David Moore , k claffy

Proceedings of the First ACM SIGCOMM Workshop on Internet

Measurement Workshop November 2001

Fragmented IP traffic is a unique component of the overall mix of traffic on the Internet. Many assertions about the nature and extent of fragmented traffic are anecdotal rather than empirical. In this paper we examine the causes and attributes of measured


fragment traffic and contrast those results with commonly cited beliefs. In particular, the effects of NFS, streaming media, networked video games, and tunneled traffic are quantified, and we estimate the prevalence of packet fragmentation due ...

17 Scalable packet classification 80%

 Florin Baboescu , George Varghese

Proceedings of the 2001 conference on applications, technologies, architectures, and protocols for computer communications August 2001

18 Scheduling computations on a software-based router 80%

 Xiaohu Qie , Andy Bavier , Larry Peterson , Scott Karlin

ACM SIGMETRICS Performance Evaluation Review , Proceedings of the international conference on on Measurement and modeling of computer systems June 2001
Volume 29 Issue 1

19 MPICH-GQ 80%

 Alain J. Roy , Ian Foster , William Gropp , Brian Toonen , Nicholas Karonis , Volker Sander

Proceedings of the 2000 conference on Supercomputing November 2000

Parallel programmers typically assume that all resources required for a program's execution are dedicated to that purpose. However, in local and wide area networks, contention for shared networks, CPUs, and I/O systems can result in significant variations in availability, with consequent adverse effects on overall performance. We describe a new message-passing architecture, MPICH-GQ, that uses quality of service (QoS) mechanisms to manage contention and hence improve performance of message ...

20 The click modular router 80%

 Eddie Kohler , Robert Morris , Benjie Chen , John Jannotti , M. Frans Kaashoek

ACM Transactions on Computer Systems (TOCS) August 2000
Volume 18 Issue 3

Clicks is a new software architecture for building flexible and configurable routers. A Click router is assembled from packet processing modules called elements. Individual elements implement simple router functions like packet classification, queuing, scheduling, and interfacing with network devices. A router configurable is a directed graph with elements at the vertices; packets flow along the edges of the graph. Several features make individual elements more powerful and ...

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